

## REMARKS

Entry of the foregoing and reexamination and reconsideration of the subject application, as amended, pursuant to and consistent with 37 C.F.R. § 1.112, are respectfully requested in light of the following remarks.

Claims 44-49 are pending in this application. Claims 1-43, 50 and 51 were previously cancelled.

Claim 44 and 45 have been amended to clarify the claim and to recite the ratio of true dimer units in the isocyanate functions to the total composition is less than 15% on a mass/mass basis. Support for this amendment is found in the specification at least on page 20, line 2-8 and in Examples 5 and 6, which show that the amount of true dimer present is 11.3 and 7.6%, relative to the total weight of the composition. No new matter has been added in making these amendments.

### **35 U.S.C. §112, first paragraph rejection**

Claims 44-49 have been rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.

Claim 44 and 45 have been amended to recite the ratio of true dimer units in the isocyanate functions to the total composition is less than 15% on a mass/mass basis. Support for this amendment is found in the specification at least on page 20, line 2-8 and in Examples 5 and 6, which show that the amount of true dimer present is 11.3 and 7.6%, relative to the total weight of the composition. The amended claims contain subject matter which is described in the specification in such a way as

to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention.

Applicant therefore requests that this rejection be withdrawn.

**35 U.S.C. §102 prior art rejection**

Claims 44-49 have been rejected under 35 U.S.C. §102(b) as being anticipated by EP 325941.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." (MPEP 2131).

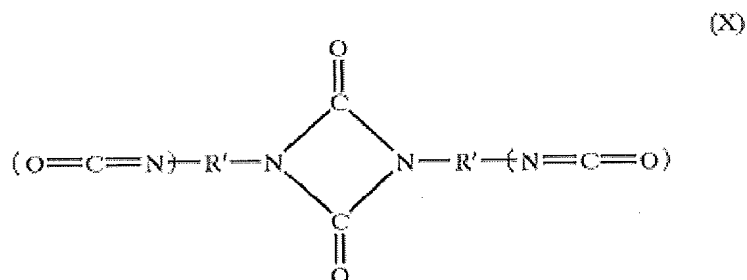
The Office Action indicates that:

The reference discloses polyisocyanates and their reaction with polyester/polyacrylate polyols to yield polyurethanes, wherein the polyisocyanates have contents of uretidinedione groups and biuret groups that are considered to meet applicants' claims. See entire document, especially abstract and examples. (page 3, paragraph 1)

Applicants note that an English language machine-translation of EP0325941 using the translate function available on the European Patent Office Web site was provided in responses to previous Office Actions.

Calculations are provided below showing that, for the examples in EP 325941, ratio of true dimer units in the isocyanate functions to the total composition is greater than 15% on a mass/mass basis, which is outside the range required by the instant claims.

Page 20, lines 11-12 of the specification states: "The true dimers are the compounds of general formula X above." The compounds of general formula (X) have the following structure, in which the ring structure is an uretidinedione:



(page 16, line 21 - Page 17, line 2)

The claims of the instant application require the mass, which is equivalent to the weight on earth, of the true dimer units. As seen from the general formula (X) above, the true dimers include the group R'. The relevant examples in EP0325941 use HDI (hexamethylene diisocyanate). The R' group in HDI is a hexyl group (C<sub>6</sub>H<sub>12</sub>) which has a molecular weight of 84, [(12 x 6) + (1 x 12)]

The molecular weight of the dimer used in the relevant examples in EP0325941 is calculated as:

$$\begin{aligned} &[4 \times (\text{NCO})] + [2 \times \text{R}'] = \\ &[4 \times (14 + 12 + 16)] + [2 \times 84] = \\ &[4 \times 42] + 168 = \\ &168 + 168 = \underline{336} \end{aligned}$$

The mass of the group C<sub>2</sub>N<sub>2</sub>O<sub>2</sub> represents 84/336 or 25% of the uretidinedione group used in the examples in EP0325941. Therefore the mass of the true dimer unit is four times the percent mass reported for the uretdion

[uretidinedione] content. In the table below, these values are reported for each of the relevant examples as the weight of the true dimer units.

In the table below, the values of the uretdione content ( $C_2N_2O_2$ ) are listed in EP0325941 as "Uretidion-Gehalt" and the values of isocyanate content are listed as "NCO-Gehalt". The values are listed as weight percentages. As shown above, the weight of the true dimer units, in percentage, is four times the weight of the uretdione content due to HDI as the R group is formula X.

Example	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Uretidione content ( $C_2N_2O_2$ ) [Uretidion-Gehalt] (% weight)	13	12	5	11	8	10
Isocyanate content [NCO-Gehalt] (% weight)	23.5	23.7	21.9	23.8	23.8	24.3
Weight of true dimer units (% weight)	52	48	20	44	32	40

As shown in the above table, the ratio of true dimer units in the isocyanate functions to the total composition is 20% or greater on a mass/mass basis.

Examples 1 and 8 were not analyzed because Example 1 provides synthetic methods to produce 1,5-diaminoheptanol-6, which is used in producing compositions of later examples and Example 8 provides a use of the composition of example 7 in a two-component paint composition. No calculations are required for these examples.

The claims require that the ratio of true dimer units in the isocyanate functions to the total composition is less than 15% on a mass/mass basis. However, as shown above, each of the examples in EP0325941 have a ratio of 20% or greater.

The Office Action has indicated that the calculations must be set forth in the form of a 37 CFR 1.132 declaration. Such a declaration is being prepared and will be submitted when completed.

Therefore, claims 44 and 45, the independent claims are not anticipated by EP0325941 because EP0325941 does not teach each element of these claims.

Applicants therefore request that this rejection be withdrawn.

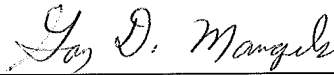
Applicants therefore request that a Notice of Allowance be issued for these claims, as the previous Office Action indicated these claims were allowable, and the information provided above overcomes the rejection of the current Office Action.

Respectfully submitted,

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